

~~2-3~~ Real Zeros of Polynomial Functions

© 2010 Kuta Software LLC. All rights reserved.

Divide using long division.

Name _____

Date _____ Period _____

1) $(x^3 - 16x^2 + 52x + 78) \div (x - 10)$

2) $(8m^2 - 26m + 13) \div (m - 2)$

3) $(4v^4 + 22v^3 + 31v^2 + 7v + 3) \div (v + 3)$

4) $(6v^3 - 47v^2 - 15v + 66) \div (v - 8)$

Divide using synthetic division. (or long division if you prefer!)

5) $(r^3 + 3r^2 - 12r - 18) \div (r - 3)$

6) $(5p^2 + 23p + 32) \div (p + 3)$

7) $(v^3 + 5v^2 - 10v + 21) \div (v + 7)$

8) $(x^3 - 4x^2 - 10x + 6) \div (x + 2)$

Evaluate each function at the given value using the Remainder Theorem.

9) $f(a) = a^4 - 3a^3 - 6a^2 + 15a$ at $a = 3$

10) $f(m) = m^4 - 10m^3 + 20m^2 + 22m + 20$ at $m = 6$

11) $f(x) = 3x^5 + 15x^4 + 13x^3 + 7x^2 + 15x + 19$ at $x = -4$

12) $f(x) = 5x^2 - 20x + 19$ at $x = 3$

Find all zeros. One zero has been given.

13) $f(x) = x^3 - 4x^2 + x + 6$; 3

14) $f(x) = x^3 - 2x^2 - 23x + 60$; 3

15) $f(x) = x^3 - 7x - 6$; 3

16) $f(x) = x^3 + 5x^2 - 9x - 45$; 3